UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/595,553	YIFTACHEL ET AL.
	Examiner	Art Unit
	CHUCK O. KENDALL	2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 July 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-57</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-57</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>09/19/06</u>.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

Detailed Action

1.   This is in response to application filed 02/17/10.

2.   Claims 1 – 57 have been examined.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in

this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1 – 57 are rejected under 35 U.S.C. 102(b) as being

anticipated by Nichols 20010016839.

   Regarding claim 1, a method for testing and verifying a requirements

specification of a system, comprising:

   describing said requirements specification in a REQUIREMENTS

ENGINEERING LANGUAGE (REL)[0431];

   simulating an execution of a scenario of said REL[0431]; and

identifying logical faults in said requirements specification based on said simulating[0432, see errors].

Regarding claim 2, the method of claim 1, wherein said describing further comprises separating said requirements specification into at least one entity to express a characteristic of said requirements specification [0240].

Regarding claim 3, the method of claim 2, wherein said separating said requirements specification into said at least one entity further comprises defining at least one type of a variable in said requirements specification [0182].

Regarding claim 4, the method of claim 3, wherein said separating said requirements specification into said at least one entity further comprises defining at least one entity to contain said at least one type of variable [0182].

Regarding claim 5, the method of claim 4, wherein said step of defining further comprises expressing at least of one constraint on said at

least one type entity [0532].

Regarding claim 6, the method of claim 2, wherein said separating said requirements specification into said at least one entity further comprises defining a possible manipulation of said at least one entity during said simulating [0132- 0135].

Regarding claim 7, the method of claim 6, wherein said possible manipulation is defined by an input variable [0134, see passed as inputs].

Regarding claim 8, the method of claim 6, wherein said possible manipulation is defined by at least one condition that is required to exist for said possible manipulation to be done [0132- 0135].

Regarding claim 9, the method of claim 6, wherein said manipulation is done in parallel during said simulating [0132- 0135].

Regarding claim 10, the method of claim 6, wherein said manipulation is done sequentially during said simulating [0316-0318, see key sequence during testing].

Regarding claim 11. The method of claim 2, wherein said separating said requirements specification into said at least one entity further comprises defining an entity to describe said system [0230].

Regarding claim 12, the method of claim 2, wherein said separating said requirements specification into said at least one entity further comprises defining at least one temporal restriction imposed on said system [0201].

Regarding claim 13, the method of claim 12, wherein said defining at least one temporal restriction imposed on said system further comprises describing a behavior of said system over at least one cycle of said simulating [0201].

Regarding claim 14. The method of claim 13, wherein said defining at least one temporal restriction imposed on said system further comprises defining a possible event that may effect said system [0419]

Regarding claim 15, the method of claim 2, wherein said separating said requirements specification into said at least one entity further comprises defining a scenario to be simulated during said simulating [0342].

Regarding claim 16, the method of claim 1, wherein said simulating further comprises checking said requirements specification to be logical [0522-0527].

Regarding claim 17, the method of claim 16, wherein said checking further comprises checking for no conflicting requirements [0522-0527].

Regarding claim 18, the method of claim 16, wherein said checking further comprises checking for no more than one possible outcome for an operation to be simulated or for a value of said at least one entity[0522-0527].

Regarding claim 19, the method of claim 16, wherein said checking further comprises checking for an outcome for said operation to be simulated or for said value of said at least one entity[0522-0527].

Regarding claim 20, the method of claim 16, wherein said checking further comprises checking at least one restriction defined by a user of said system.

Regarding claim 21, a system for testing and verifying of requirements specification of a system, comprising:

a modeling and testing component to build a model of said requirements specification [0431 - 0436]; and a

dynamic testing component to test said requirements specification by execution of at least one simulation cycle [0431 - 0436].

Regarding claim 22, the system of claim 21 further comprising a main repository component to store said model of said requirements specification [0885].

Regarding claim 23, the system of claim 22 wherein said main repository component is auxiliary to said system [0885].

Regarding claim 24, the system of claim 21, wherein said modeling and testing component performs at least one static test to said model of said requirements specification [0353].

Regarding claim 25, the system of claim 21 wherein said modeling and testing component translates a high-level specification language to said

requirements engineering language[0431 – 0436].

Regarding claim 26, the system of claim 21 wherein said modeling and testing component receives said requirements engineering language[0431 - 0436].

Regarding claim 27, the system of claim 21, wherein said modeling and testing component further comprises:

a moderator component to translate said high-level specification to said requirements engineering language;

an object builder component to build a unique representation of said specification requirements; and

a checker component to check characteristics of said unique representation.

Regarding claim 28, the system of claim 22 wherein said main repository further comprises a rule repository component to store syntax rules of said high-level specification language.

Regarding claim 29, the system of claim 22 wherein said main repository further comprises a specification repository component to store

said specification requirements after said checker component checks it.

Regarding claim 30, the system of claim 21, wherein said dynamic testing component further comprises:

a requirements tests manager to define, simulate, and analyze a scenario [0431 - 0446];

a simulator manager to coordinate the simulation sequence of said scenario[0431 - 0446];

a dynamic verification manager to activate said checkers during said simulation sequence[0431 - 0446]; and

a simulation and verification manager to control said dynamic testing component [0431 - 0446].

Regarding claim 31, the system of claim 30, wherein said simulation and verification manager is further adapted to load at least one entity for simulation from said specification repository component [0431 - 0446].

Regarding claim 32, the system of claim 31, wherein said at least one entity can be simulated substantially immediately [0431 - 0446].

Regarding claim 33, the system of claim 30, wherein said simulation and verification manager is further adapted to analyze said scenario [0322].

Regarding claim 34, the system of claim 30, wherein said simulation and verification manager is further adapted to initiate said simulator manager and load said checkers for said dynamic verification manager [0320-0324].

Regarding claim 35, the system of claim 30, wherein said simulator manager further comprises:

an evaluation component to provide an infrastructure required to execute said scenario [0320-0324]; and

an evaluation context component to control an execution of at least one evaluator of said scenario [0320-0324].

Regarding claim 36, the system of claim 35, wherein said at least one evaluator is executed in parallel to at least a second evaluator [0320-0324].

Regarding claim 37, the system of claim 35, wherein said evaluator is evaluating an entity written in said requirements engineering language

[0413].

Regarding claim 38, the system of claim 35, further comprises an outcome repository to store the outcome of said execution of said at least one evaluator of said scenario [0320-0324].

Regarding claim 39, the system of claim 30, wherein said dynamic verification manager is further adapted to receive values of said at least one entity during simulation [0320-0324].

Regarding claim 40, the system of claim 30, wherein said dynamic verification manager is further adapted to check if said values are true values for said at least one entity within said simulation [0320-0324].

Regarding claim 41, the system of claim 30, wherein said dynamic verification manager is further adapted to detect an error of said execution by said at least one evaluator of said scenario [0320-0324].

Regarding claims 42 and 44, the system of claim 27, wherein said object builder further comprises:

a temporal entity object builder to receive a temporal logic entity from said modeling and testing component, wherein said temporal entity object builder is adapted to divide said temporal logic entity to at least one component said temporal logic entity is built from [0478-0484]; and

wherein said at least one component is sent to a builder within said object builder [0478-0484].

Regarding claim 43, a modeling and testing apparatus comprising:

a moderator component to translate a high-level specification requirements to a REQUIREMENTS ENGINEERING LANGUAGE (REL) [0870];

an object builder component to build a unique representation of said specification requirements [0436]; and

a checker component to check characteristics of said unique representation [0436].

Regarding claim 45, a dynamic testing apparatus comprising:

a requirements tests manager to define, simulate, and analyze a scenario [0432-0438];

a simulator manager to coordinate the simulation sequence of said scenario [0432-0438];

a dynamic verification manager to activate said checkers during said simulation sequence [0432-0438]; and

a simulation and verification manager to control said dynamic testing component [0432- 0438].

Regarding claim 46, the dynamic testing apparatus of claim 45, wherein said simulation and verification manager is further adapted to load at least one entity for simulation from said specification repository component [0432-0438].

Regarding claim 47, the dynamic testing apparatus of claim 46, wherein said at least one entity can be simulated substantially immediately [0432 - 0438].

Regarding claim 48, the dynamic testing apparatus of claim 45, wherein said simulation and verification manager is further adapted to analyze said scenario [0432 - 0438].

Regarding claim 49, the dynamic testing apparatus of claim 45, wherein said simulation and verification manager is further adapted to initiate said simulator manager and load said checkers for said dynamic verification manager [0432 - 0444].

Regarding claim 50, the dynamic testing apparatus of claim 45, wherein said simulator manager further comprises:

an evaluation component to provide an infrastructure required to execute said scenario [0316 – 0327]; and

an evaluation context component to control an execution of at least one evaluator of said scenario [0316 – 0327].

Regarding claim 51, the dynamic testing apparatus of claim 48, wherein said at least one evaluator is executed in parallel to at least a second evaluator [0316 – 0327].

Regarding claim 52, the dynamic testing apparatus of claim 48, wherein said evaluator evaluates said at least one entity written in said requirements engineering language [0316 – 0327].

Regarding claim 53, the dynamic testing apparatus of claim 48, further comprises an outcome repository to store the outcome of said execution of said at least one evaluator of said scenario [0316 – 0327].

Regarding claim 54, the dynamic testing apparatus of claim 45, wherein said dynamic verification manager is further adapted to detect an error of said execution by said at least one evaluator of said scenario[0316 – 0327].

Regarding claim 55, the dynamic testing apparatus of claim 45, wherein said dynamic verification manager is further adapted to receive values of said at least one entity during simulation [0316 – 0327].

Regarding claim 56, the dynamic testing apparatus of claim 45, wherein said dynamic verification manager is further adapted to check if said values are true values for said simulation [0316 – 0327].

Regarding claim 57, the dynamic testing apparatus of claim 45, wherein said dynamic verification manager is further adapted to detect an error of said execution by said at least one evaluator of said scenario [0316 – 0327].

Correspondence Information

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Kendall whose telephone number is 571-272-3698. The examiner can normally be reached between Monday and Thursday, at 11:00 am - 4:300pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Chuck O Kendall/

Primary Examiner, Art Unit 2192